

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
4 November 2004 (04.11.2004)

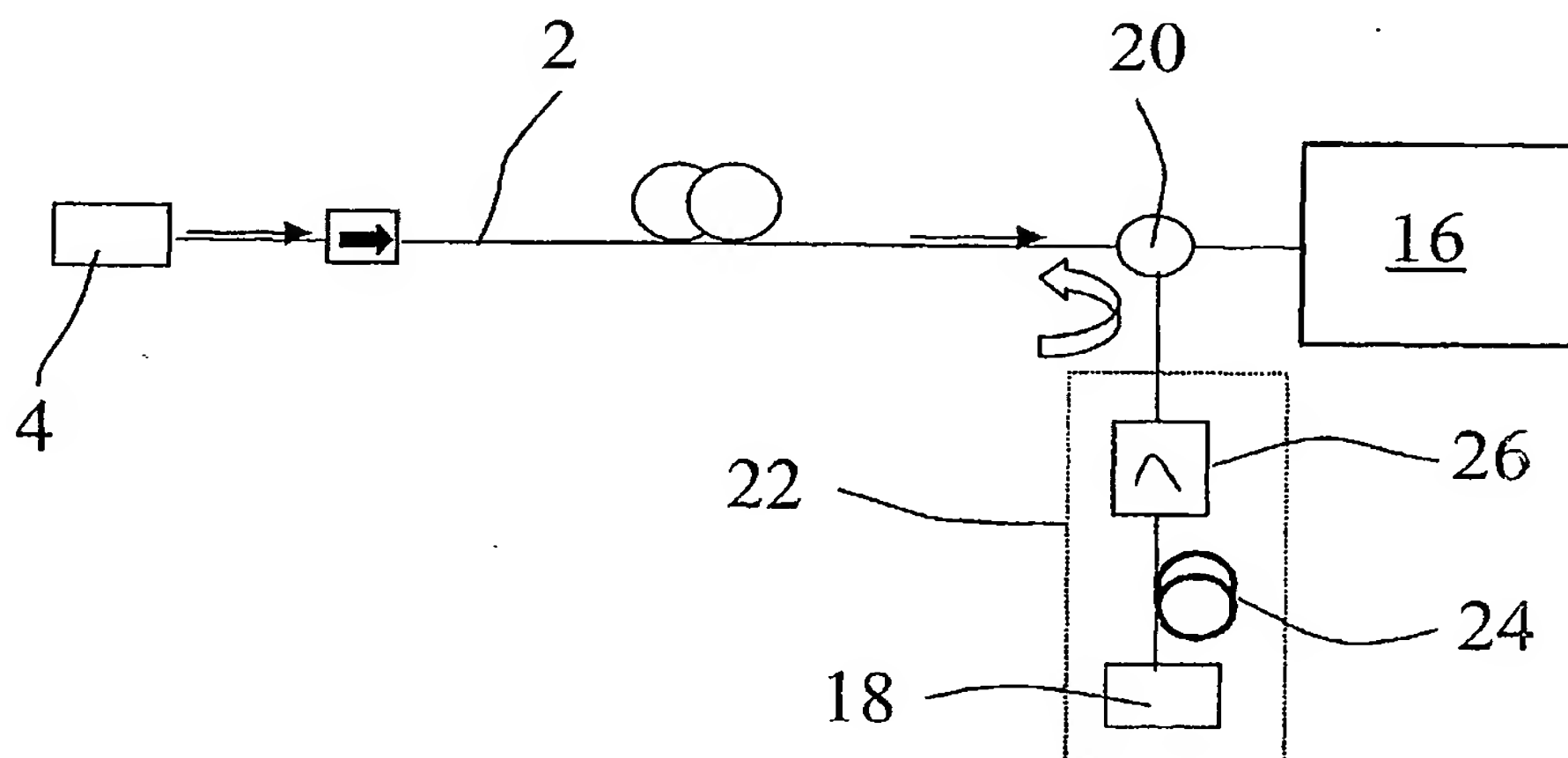
PCT

(10) International Publication Number  
**WO 2004/095738 A1**

- (51) International Patent Classification<sup>7</sup>: H04B 10/17, H01S 3/30
- (21) International Application Number: PCT/EP2004/050595
- (22) International Filing Date: 23 April 2004 (23.04.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
FI2003A 000117 24 April 2003 (24.04.2003) IT
- (71) Applicant (for all designated States except US): MARCONI COMMUNICATIONS SPA [IT/IT]; Via Lodovico Calda 5, 16153 Genova (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SUGLIANI, Simone [IT/IT]; Via S. Alessandro 162, I-24122 Bergamo (IT). SACCHI, Giovanni [IT/IT]; Viale Sarca 96, I-20125 Milano (IT). DI PASQUALE, Fabrizio [IT/IT]; P. le Martin Luther King 1C, I-56100 Pisa (IT).
- (74) Agent: COLLIER, Ian; Marconi Intellectual Property, Crompton Close, Basildon, Essex SS14 3BA (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: COUNTER-PUMPED DISTRIBUTED RAMAN AMPLIFICATION IN WAVELENGTH DIVISION MULTIPLEX OPTICAL COMMUNICATION SYSTEMS



(57) Abstract: A Raman pump module (22) for generating pump radiation having a pump wavelength ( $\lambda_p$ ) for coupling into a transmission fibre (2) of an optical wavelength division multiplex WDM communication system to provide Raman amplification of VVDM radiation counter propagating there through is disclosed. The pump module is for use in a communications system in which the WDM radiation has a transmission waveband ( $\lambda_s$ ) and wherein the transmission fibre (2) has a zero dispersion wavelength ( $\lambda_m$ ) lying midway between the transmission waveband and the pump wavelength. The module (22) comprises a Raman pump laser (18) for generating the pump radiation and decorrelating means (24) for de-correlating the longitudinal modes of the pump radiation before it is coupled into the transmission fibre.



**Published:**

— with international search report

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